WHAT IS CLAIMED IS:

1. - 22. (canceled)

23. (currently amended) A metallic object comprising a coating that is comprised of a thin metal oxide layer and nucleic acid compounds selected from the group consisting of nucleic acids and nucleic acid derivatives, wherein the nucleic acid compounds have 5'-terminal or 3'-terminal ends with a covalently bonded anionic group, selected from the group consisting of phosphate, phosphonate, and sulfonate, and wherein the nucleic acid compounds each are bonded to the thin metal oxide layer through the covalently bonded anionic group of the 5'-terminal or 3'-terminal ends and the remainder of the nucleic acid compounds extends away from the thin metal oxide layer, wherein the 5-terminal or 3'-terminal ends are embedded in the metal oxide layer grown about the 5'-terminal or 3'-terminal ends.

24. (previously presented) The object according to claim 23, wherein the unincorporated areas of the nucleic acid compounds that are not incorporated into the metal oxide layer are freely accessible for subsequent interactions with other molecules.

25. (canceled)

26. (canceled)

27. (previously presented) The object according to claim 23, wherein the metal of the metallic object is a valve metal or a valve metal alloy.

28. (previously presented) The object according to claim 23, wherein the metal of the metallic object is selected from the group consisting of aluminum, titanium, tantalum, zirconium, niobium, and an alloy of one or more of the metals.

29. (previously presented) The object according to claim 28, wherein the alloy is an intermetallic phase.

30. (currently amended) The object according to claim 23, wherein the nucleic acid compounds are selected from the group consisting of deoxyribonucleic ~~desoxyribonucleic~~ acids (DNA), ribonucleic acids (RNA), peptide nucleic acids (PNA), locked nucleic acids (LNA), and mixed molecules of DNA, RNA, PNA, and LNA.

31. (currently amended) The object according to claim 23 [[30]], wherein the nucleic acid compounds have modifications of the sugar phosphate backbone caused by modifying agents, wherein the modifying agents are selected from the group consisting

of phosphothioates, O-methyl groups, and unconventional bases.

32. (previously presented) The object according to claim 23, wherein the nucleic acid compounds are present at least partially as individual strands.

33. (previously presented) The object according to claim 32, further comprising additional nucleic acid strands bonded by complementary base pairs to the individual strands.

34. (previously presented) The object according to claim 33, wherein the individual strands immobilized on the metal oxide surface and the additional strands are covalently bonded.

35. (previously presented) The object according to claim 33, further comprising active ingredients selected from the group consisting of inorganic molecules, organic molecules, biochemical molecules, cell components, and tissue components, wherein the active ingredients are bonded to the additional nucleic acid strands.

36. (previously presented) The object according to claim 35, wherein the inorganic molecules or organic molecules comprise radioactive elements.

37. (withdrawn - currently amended) A method for manufacturing a metallic object according to claim 23, the method comprising the steps of:

contacting a metallic substrate surface with nucleic acid compounds having anionic groups 5'-terminal or 3'-terminal ends <u>with a covalently bonded anionic group, selected from the group consisting of phosphate, phosphonate, and sulfonate,</u> and metastably fixing the nucleic acid compounds through the <u>covalently bonded</u> anionic groups on the metallic substrate surface by regiospecific interactions <u>such that the remainder of the nucleic acid compounds extends away from the metallic substrate</u>;

simultaneously or subsequently, anodically polarizing the metallic substrate surface in an electrolyte solution and growing a metal oxide layer about the 5'-terminal or 3'-terminal ends and embedding the 5'-terminal or 3'-terminal end in the metal oxide layer.

38. (withdrawn) The method according to claim 37, wherein a pH value and an ion strength are provided at which the anionic groups are negatively charged and the metallic substrate surface has at least locally some positive charge centers.

39. (withdrawn) The method according to claim 38, wherein the pH value is in a range between 3.0 and 5.0.

40. (withdrawn) The method according to claim 37, wherein a potential in the step of anodically polarizing is limited to a value between 2 and 200 V_{SCE} so that a sufficiently stable incorporation of the nucleic acid compounds into the metal oxide layer is provided but growth of the metal oxide layer into a recognition area of the nucleic acid compounds required for other processes is prevented.

41. (withdrawn) A method for immobilizing complementary nucleic acid compounds selected from the group consisting of nucleic acids and nucleic acid derivatives on a metallic object according to claim 23, the method comprising the steps of:

selecting a pH value and an ion strength such that the metal oxide layer of the metallic object is negatively charged and a nucleic acid backbone of the nucleic acid compounds of the coating of the metallic object is negatively charged or not charged.

42. (withdrawn) The method according to claim 41, wherein the ion strength is in a range of 0.1 to 1.5 mol/liter and the pH value is in a range of pH 5.5 to 8.5.

43. (withdrawn) The method according to claim 41, further comprising active ingredients selected from the group consisting of inorganic molecules, organic molecules, biochemical molecules, cell components, and tissue components, wherein the active ingredients are bonded to the nucleic acid compounds.

44. (withdrawn) The method according to claim 43, wherein the inorganic molecules or organic molecules comprise radioactive elements.